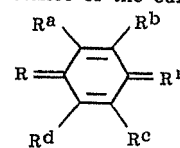
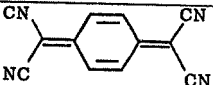
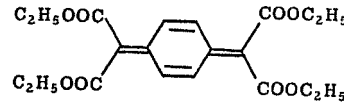
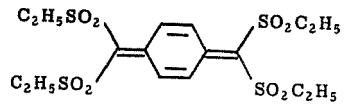
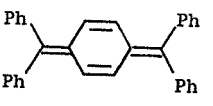
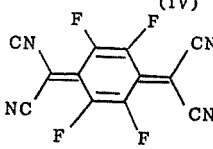
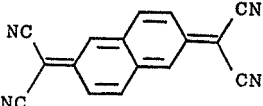
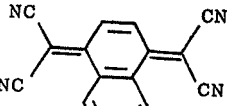
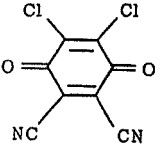
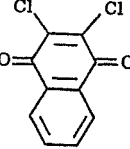
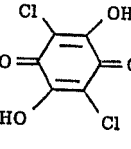
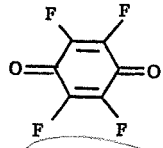
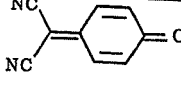
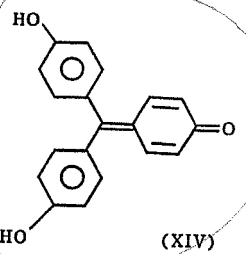


<p>94-167890/21 LOCTITE CORP A81 E15 G03 (A14 E14) 92.10.09 92US-958323 (94.04.21) C09J 4/04 Cyanoacrylate adhesive contg quinoid cpd stabiliser - has improved thermal decomposition and isothermal outgassing properties C94-076948 Addnl. Data: ATTARWALA S 93.10.08 93AU-048934</p>	<p>LOCT 92.10.09 *AU 9348934-A A(4-D, 8-A4, 12-A5B1) E(10-A6A, 10-A6B) G(3-B2D1)</p>
<p>A cyanoacrylate monomer adhesive compsn. includes 0.1-10 wt.% of a quinoid cpd. of the formula (I) to enhance the thermal resistance of the cured polymer.</p>  <p>R = C(CN)₂, C(CO₂R^e)₂, C(SO₂R^e)₂ or C(Ph)₂; R^a, R^b, R^c and R^d = H, monovalent hydrocarbon, halogen or strong electron withdrawing gp.; or two of R^a - R^d combined form a</p>	<p>fused hydrocarbon ring; R¹ = C(CN)₂, C(CO₂R^e)₂, C(SO₂R^e)₂ or C(Ph)₂ or R¹ and R^b combined form a fused ring having a C(CN)₂, C(CO₂R^e)₂, C(SO₂R^e)₂ or C(Ph)₂ gp. in conjunction with R; R^e = alkyl; and Ph = phenyl; or R and R¹ = O; and R^a, R^b, R^c and R^d = H, monovalent hydrocarbon, halogen, hydroxyl, alkoxy or strong electron withdrawing gps., or two of R^a-R^d combined form a fused hydrocarbon ring, provided that at least two of R^a - R^d are halogen or strong withdrawing gps.; or R = O; R¹ = C(CN)₂, C(CO₂R^e)₂, C(SO₂R^e)₂ or a diphenyl-methylene gp., the phenyl gps. of which may be opt. subst. with one or more halo, hydroxyl, alkoxy, hydrocarbon, nitro, acyloxy or cyano gps., and R^a, R^b, R^c and R^d = H, monovalent hydrocarbon, halogen</p>

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<p>or strong electron withdrawing gp., or two of R^a, R^b, R^c and R^d combined form a fused hydrocarbon ring.</p> <p>USE/ADVANTAGE The compsn. is used as an 'instant adhesive'. The compsn. has improved thermal properties.</p> <p>MORE SPECIFICALLY The strong electron withdrawing gp. is selected from carboxylate, carboxylate ester, sulphonyl, sulphonyl halide, sulphonyl ester, trihalomethyl, cyano and nitro gps.</p> <p>At least two of R^a, R^b, R^c and R^d are selected from halo, cyano and nitro gps.</p> <p>PREFERRED COMPOSITION The compsn. comprises 0.5-5 wt.% of the cpd. of formula (I). The polymer compsn. has an onset of decomposition temp. when heated at 10°C/min. of at least 183°C; and a wt. loss of 25% or less (10% or less) when heated at 150°C for 900 mins.</p> <p>PREFERRED QUINOID COMPOUND The cpd. is e.g. of the formulae (II) - (V) (13 given)</p>	 <p>(II)</p>  <p>(III)</p>  <p>(IV)</p>  <p>(V)</p>  <p>(VI)</p>
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<p>94-167890/21</p>  <p>(VII)</p>  <p>(VIII)</p>  <p>(IX)</p>  <p>(X)</p>  <p>(XI)</p>	 <p>(XII)</p>  <p>(XIII)</p>  <p>(XIV)</p> <p>EXAMPLE 0.5 wt.% tetrafluoroquinodimethane was added to a</p>
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AU9348934-A+2

cyanoacrylate adhesive formulation.

The onset of decomposition temp. was 210°C; wt. loss at 150°C in 900 mins. was 7%; 82°C stability was 20 days; and the fixture speed was 25 sec. for Balsa wood and 35 secs. for cow leather.

Results for a comparative example (without the quinoid additive) were 155°C; 96%; 20 days; and 25 secs and 35 secs.

The thermal decomposition and isothermal outgassing properties were improved compared to a formulation without the quinoid additive. (24pp1982--DwgNo0/0).

AU9348934-A/3